WHAT IS CLAIMED IS:

1. A method of using an addressable array of biopolymers on a substrate which array has been exposed to a sample, comprising:

(a) detecting signals from the exposed array to obtain a signal image of the array;

(b) establishing, based on the detected signals, a shape of each region in one or more sets of multiple regions on the array signal image, and displaying the established shapes;

(c) processing each region of each set according to a corresponding routine for that set; and

(d) saving the displayed shapes in a first file and at least some of the processed results in a second file.

2. A method according to claim 1 wherein the biopolymers are polynucleotides.

3. A method according to claim 2 wherein the biopolymers are DNA.

4. A method according to claim 1 wherein the first file is smaller than the second file.

5. A method according to claim 1 additionally comprising, subsequent to processing of each region, retrieving the saved shapes of the established regions and displaying images of them.

6. A method according to claim 1 additionally comprising, saving the array signal image, and subsequent to processing each region, retrieving the array signal image and saved shapes of the established regions and displaying overlaid images of them.

7. A method according to claim 6 wherein each displayed region is linked to processed data for that region.

8. A method according to claim 7 additionally comprising evaluating the results from the processing based on the displayed retrieved shapes.

9. A method according to claim 7 additionally comprising, based on the displayed retrieved shapes, altering a parameter used in the processing and re-processing a region using the altered parameter.

10. A method according to claim 6 additionally comprising re-processing a region in response to an alteration of one of the shapes of a set using the altered shape.

11. A method according to claim 5 wherein the shape of regions of a first set are established which comprise regions of signal strength higher than a predetermined value representing detected array features, surrounded by regions of lower signal strength representing detected background.

12. A method according to claim 11 wherein the regions of the first set are processed by a first routine comprising a summation of signal strength within sub-regions of each first set region to provide a total signal strength for each first set region.

13. A method according to claim 4 wherein the shape of regions of a second set are established each of which comprises a local background region of lower signal strength than a corresponding detected feature about which the background region is positioned.

14. A method according to claim 13 wherein the first routine comprises subtracting local background region signal strength from the corresponding detected feature signal strength.

15. A method according to claim 4 wherein the shape of regions of a set include an identified shape of any of an array feature, a background feature, and an identified inlier or outlier region within an array feature or background feature.

16. A method according to claim 12 wherein the array signal image is a digital signal image and the sub-regions are pixels or pixel blocks.

17. A method, comprising:

retrieving from a non-volatile memory a saved shape of each region in one or more sets of multiple regions on a signal image from an addressable array of biopolymers which was exposed to a sample, which regions were based on the array signal image, prior to retrieving from the non-volatile memory the majority of other processed data for each region of each set which data was processed according to a corresponding routine for that set.

18. A method according to claim 17 additionally comprising retrieving the majority of other processed data.

19. A method according to claim 17 wherein the saved shapes are retrieved without retrieving any of the other processed data.

20. A method, comprising:

retrieving from a non-volatile memory a sub-set of a set of processed data from an addressable array of biopolymers which was exposed to a sample.

21. A method according to claim 20 additionally comprising reviewing retrieved data and retrieving additional processed data of the set from the non-volatile memory based on the results of the review.

22. A method according to claim 21 wherein the processed data was derived from different regions in one or more sets of multiple regions on a signal image from the array, which regions were based on the array signal image.

23. A method according to claim 22 wherein the processed data was processed according to a corresponding routine for each set.

24. A method according to claim 17 additionally comprising retrieving the array signal image from the non-volatile memory.

25. An apparatus for using an addressable array of biopolymers on a substrate which array has been exposed to a sample, comprising:

(a) a detector to detect signals from the exposed array to obtain a signal image of the array;

(b) a memory; and

(c) a processor which:

establishes, based on the detected signals, a shape of each region in one or more sets of multiple regions on the array signal image;

saves a definition of the shapes of the established regions of each set in a memory;

processes each region of each set according to a corresponding routine for that set; and

saves the displayed shapes in a first file and at least some of the processed results in a second file.

26. An apparatus according to claim 25 wherein the biopolymers are polynucleotides.

27. An apparatus according to claim 25 wherein the processor, subsequent to processing of each region, retrieves the saved shapes of the established regions and displays images of them.

28. An apparatus according to claim 25 wherein the processor saves the array signal image in memory and, subsequent to processing each region, retrieves the array signal image and saved shapes of the established regions, and displays overlaid images of them.

29. An apparatus according to claim 28 wherein each displayed region is linked to processed data for that region.

30. An apparatus according to claim 28 wherein the processor, in response to a user input alteration of one of the shapes of a set, re-processes that region with the altered shape according to the corresponding routine for that set.

31. An apparatus according to claim 25 wherein the shape of regions of a first set are established which comprise regions of signal strength higher than a predetermined value representing detected array features, surrounded by regions of lower signal strength representing detected background.

32. An apparatus according to claim 26 wherein the regions of the first set are processed by a first routine comprising a summation of signal strength within sub-regions of each first set region to provide a total signal strength for each first set region.

33. An apparatus according to claim 31 wherein the processor establishes a shape of regions of a second set each of which comprises a local background region of lower signal strength than a corresponding detected feature about which the background region is positioned.

34. An apparatus method according to claim 33 wherein the first routine comprises subtracting local background region signal strength from the corresponding detected feature signal strength.

35. An apparatus comprising a processor which:

retrieves from a non-volatile memory a saved shape of each region in one or more sets of multiple regions on a signal image from an addressable array of biopolymers which was exposed to a sample, which regions were based on the array signal image;

wherein the saved shapes are retrieved prior to retrieving from the non-volatile memory the majority of other processed data for each region of each set which data was processed according to a corresponding routine for that set.

36. A method according to claim 35 wherein the processor additionally retrieves the array signal image from the non-volatile memory.

37. A computer program product, comprising: a computer readable storage medium having a computer program stored thereon for performing, when loaded into a computer, the steps of:

(a) receiving signals from a biopolymer array which has been exposed to a sample, as a signal image of the array;

(b) saving the array signal image in a memory;

(c) establishing, based on the detected signals, a shape of each region in one or more sets of multiple regions on the array signal image;

(d) saving a definition of the shapes of the established regions of each set in a memory; and

(e) processing each region of each set according to a corresponding routine for that set.

38. A computer program product, comprising: a computer readable storage medium having a computer program stored thereon for performing, when loaded into a computer, the steps of:

(a) retrieving from a memory saved signals from a biopolymer array which has been exposed to a sample, as a signal image of the array, and retrieving from a memory saved definitions of a shape of each region in one or more sets of multiple regions on the array signal image; and

(b) displaying the signal image and shapes as overlaid images.

39. A computer program product according to claim 38 wherein each displayed region is linked to processed data for that region saved in a memory accessible by the processor.

40. A computer program product according to claim 38 which additionally:

retrieves previously processed data for a region from a memory; and

in response to an alteration of one of the shapes of a region of a set, re-processes that region with the altered shape according to the corresponding routine used to previously process data for that region.

41. A computer program product, comprising: a computer readable storage medium having a computer program stored thereon for performing, when loaded into a computer, the steps of:

retrieving from a non-volatile memory a saved shape of each region in one or more sets of multiple regions on a signal image from an addressable array of biopolymers which was exposed to a sample, which regions were based on the array signal image; and

following retrieval of the saved shapes, retrieving from the non-volatile memory the majority of other processed data for each region of each set which data was processed according to a corresponding routine for that set.

42. A method according to claim 41 wherein the processor additionally retrieves the array signal image from the non-volatile memory.